

Amendment to the Claims:

1. (Currently amended) A diamond, comprising:

a pavilion having a plurality of facets disposed from a girdle to a culet, each of the plurality of facets having a continuous flat surface extending from the girdle to the culet, wherein an edge of a first adjoining facet contacts an edge of a second adjoining facet along a common radial boundary; and

a dome-shaped crown disposed above the girdle, wherein the girdle extends no further than a widest circumference of the dome-shaped crown and the pavilion extends no further than a widest circumference of the girdle, the dome-shaped crown formed from at least ~~ten~~ five sets of facets cut with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle to an apex of the dome-shaped crown, each facet within the sets of facets being hexagonal in shape with opposing corners of the hexagon nested between adjacent facets, each of the sets of facets having monotonically decreasing surface area from the girdle to the apex of the dome-shaped crown, the apex of the dome-shaped crown having less surface area than each facet from the sets of facets ~~being star-shaped with a plurality of points conforming to a top-most set of facets.~~

2. (Cancelled)

3. (Currently amended) The diamond of claim 1 ~~2~~, wherein the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees.

4. (Original) The diamond of claim 1, wherein the plurality of facets of the pavilion totals at least sixteen in number.

5. (Original) The diamond of claim 1, wherein the pavilion is substantially conical in shape.

6. (Cancelled)

7. (Previously presented) The diamond of claim 1, further including:

a first set of facets disposed in the dome-shaped crown adjacent to the girdle and cut about 90 degrees with respect to a reference line which is tangential to the apex of the dome-shaped crown; and

a second set of facets disposed in the dome-shaped crown adjacent to the first set of facets and cut about 75 degrees with respect to the reference line.

8. (Previously presented) The diamond of claim 7, further including:

a third set of facets disposed in the dome-shaped crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the dome-shaped crown adjacent to the third set of facets and cut about 55 degrees with respect to the reference line; and

a fifth set of facets disposed in the dome-shaped crown adjacent to the fourth set of facets and cut about 45 degrees with respect to the reference line.

9. (Cancelled)

10. (Previously presented) The diamond of claim 7, further including:

a third set of facets disposed in the dome-shaped crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the dome-shaped crown adjacent to the third set of facets and cut about 56 degrees with respect to the reference line; and

a fifth set of facets disposed in the dome-shaped crown adjacent to the fourth set of facets and cut about 46 degrees with respect to the reference line.

11. (Cancelled)

12. (Cancelled)

13. (Currently amended) A cut gemstone, comprising:

a pavilion extending from a girdle to a culet, wherein the girdle extends no further than a widest circumference of the crown and the pavilion extends no further than a widest circumference of the girdle; and

a crown in the form of a symmetrical hemisphere formed from at least ~~ten~~ five sets of facets between the girdle and an apex of the crown including a first set of facets disposed above the girdle and a second set of facets disposed between the first set of facets and an apex of the crown, wherein the first set of facets is cut at a first angle with respect to a reference line which is tangential to the apex of the crown and the second set

of facets is cut at a second angle with respect to the reference line which is less than the first angle, each facet within the first and second sets of facets being hexagonal in shape with opposing corners of the hexagon nested between adjacent facets.

14. (Original) The cut gemstone of claim 13, wherein each of the plurality of facets of the pavilion are symmetrically disposed and extend continuous from the girdle to the culet.

15. (Original) The cut gemstone of claim 14 wherein each of the plurality of facets of the pavilion are cut to an angle of about 40.75 degrees with respect to the reference line.

16. (Original) The cut gemstone of claim 13, wherein the plurality of facets of the pavilion totals at least sixteen in number.

17. (Cancelled)

18. (Original) The cut gemstone of claim 13, wherein the first set of facets is disposed in the crown adjacent to the girdle and cut about 90 degrees with respect to the reference line and the second set of facets is disposed in the crown adjacent to the first set of facets and cut about 75 degrees with respect to the reference line.

19. (Previously presented) The cut gemstone of claim 18, further including:

a third set of facets disposed in the crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the crown adjacent to the third set of facets and cut about 55 degrees with respect to the reference line; and

a fifth set of facets disposed in the crown adjacent to the fourth set of facets and cut about 45 degrees with respect to the reference line.

20. (Cancelled)

21. (Previously presented) The cut gemstone of claim 13, further including:

a third set of facets disposed in the crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the crown adjacent to the third set of facets and cut about 56 degrees with respect to the reference line; and

a fifth set of facets disposed in the crown adjacent to the fourth set of facets and cut about 46 degrees with respect to the reference line.

22. (Cancelled)

23. (Currently amended) A cut gemstone, comprising:

a pavilion having a plurality of facets disposed from a girdle to a culet; and

a dome-shaped crown disposed above the girdle, wherein the

girdle extends no further than a widest circumference of the dome-shaped crown and the pavilion extends no further than a widest circumference of the girdle, the dome-shaped crown formed from at least ~~ten~~ five sets of facets cut with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle to an apex of the dome-shaped crown, each facet within the sets of facets being hexagonal in shape with opposing corners of the hexagon nested between adjacent facets.

24. (Original) The cut gemstone of claim 23, wherein each of the plurality of facets of the pavilion are symmetrically disposed and extend continuous from the girdle to the culet.

25. (Original) The cut gemstone of claim 24, wherein the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees with respect to the reference line which is tangential to the apex of the dome-shaped crown.

26. (Cancelled)

27. (Previously presented) The cut gemstone of claim 23, further including:

a first set of facets disposed in the dome-shaped crown adjacent to the girdle and cut about 90 degrees with respect to a reference line which is tangential to the apex of the dome-shaped crown; and

a second set of facets disposed in the dome-shaped crown adjacent to the first set of facets and cut about 75 degrees with respect to the reference line.

28. (Previously presented) The cut gemstone of claim 27, further including:

a third set of facets disposed in the dome-shaped crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the dome-shaped crown adjacent to the third set of facets and cut about 55 degrees with respect to the reference line; and

a fifth set of facets disposed in the dome-shaped crown adjacent to the fourth set of facets and cut about 45 degrees with respect to the reference line.

29-39. (Cancelled)

40. (New) A cut gemstone, comprising:

a pavilion having a plurality of facets disposed from a girdle to a culet; and

a dome-shaped crown disposed above the girdle, wherein the girdle extends no further than a widest circumference of the dome-shaped crown and the pavilion extends no further than a widest circumference of the girdle, the dome-shaped crown formed from a plurality of sets of facets cut with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle to an apex of the dome-shaped crown, each facet within the sets of facets being polygonal in shape with opposing corners of the polygon nested between adjacent facets.

41. (New) The cut gemstone of claim 40, wherein the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees with respect to the reference line which is tangential to the apex of the dome-shaped crown.

42. (New) The cut gemstone of claim 40, further including:
a first set of facets disposed in the dome-shaped crown adjacent to the girdle and cut about 90 degrees with respect to a reference line which is tangential to the apex of the dome-shaped crown; and

a second set of facets disposed in the dome-shaped crown adjacent to the first set of facets and cut about 75 degrees with respect to the reference line.

43. (New) The cut gemstone of claim 40, further including:
a third set of facets disposed in the dome-shaped crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the dome-shaped crown adjacent to the third set of facets and cut about 55 degrees with respect to the reference line; and

a fifth set of facets disposed in the dome-shaped crown adjacent to the fourth set of facets and cut about 45 degrees with respect to the reference line.

44. (New) The cut gemstone of claim 40, wherein the dome-shaped crown is formed from at least five sets of facets with monotonically decreasing angles to form the curved contour in accordance with the dome shape.

45. (New) The cut gemstone of claim 40, wherein the polygon is a hexagon.

46. (New) The cut gemstone of claim 40, wherein the apex of the dome-shaped crown has less surface area than each facet from the sets of facets.

47. (New) A diamond, comprising:

a pavilion having a plurality of facets disposed from a girdle to a culet; and

a dome-shaped crown disposed above the girdle, wherein the girdle extends no further than a widest circumference of the dome-shaped crown and the pavilion extends no further than a widest circumference of the girdle, the dome-shaped crown formed from a plurality of sets of facets cut with monotonically decreasing angles to form a curved contour in accordance with a dome shape from the girdle to an apex of the dome-shaped crown.

48. (New) The diamond of claim 47, wherein each facet within the sets of facets is polygonal in shape with opposing corners of the polygon nested between adjacent facets.

49. (New) The diamond of claim 47, wherein the polygon is a hexagon.

50. (New) The cut gemstone of claim 47, wherein the apex of the dome-shaped crown has less surface area than each facet from the sets of facets.

51. (New) The diamond of claim 47, wherein the plurality of facets of the pavilion are each cut to an angle of about 40.75 degrees with respect to the reference line which is tangential to the apex of the dome-shaped crown.

52. (New) The diamond of claim 47, further including:

a first set of facets disposed in the dome-shaped crown adjacent to the girdle and cut about 90 degrees with respect to a reference line which is tangential to the apex of the dome-shaped crown; and

a second set of facets disposed in the dome-shaped crown adjacent to the first set of facets and cut about 75 degrees with respect to the reference line.

53. (New) The diamond of claim 51, further including:

a third set of facets disposed in the dome-shaped crown adjacent to the second set of facets and cut about 65 degrees with respect to the reference line;

a fourth set of facets disposed in the dome-shaped crown adjacent to the third set of facets and cut about 55 degrees with respect to the reference line; and

a fifth set of facets disposed in the dome-shaped crown adjacent to the fourth set of facets and cut about 45 degrees with respect to the reference line.

54. (New) The diamond of claim 47, wherein the dome-shaped crown is formed from at least five sets of facets with monotonically decreasing angles to form the curved contour in accordance with the dome shape.

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55. (New) The cut gemstone of claim 13, wherein the apex of the crown has less surface area than each facet from the sets of facets.

56. (New) The cut gemstone of claim 23, wherein the apex of the dome-shaped crown has less surface area than each facet from the sets of facets.